

Applicant: Stein et al.
For: SINGLE INSTRUCTION MULTIPLE DATA ARRAY STREAM

ABSTRACT OF DISCLOSURE

A single instruction multiple data (SIMD) array cell for processing a data stream, the array including a plurality of cells, each cell having a memory circuit for storing a predetermined region of the data stream; a location register circuit for representing the size and location of the predetermined region of the data stream; a unique identification number; and an arithmetic logic unit responsive to the identification number and a single command common to all cells in a load mode to compute a unique start position for its cell for receiving the predetermined region of the direct memory access data stream. In an execution mode the command word includes an address field applicable to all cells, a data field and an instruction to be performed by the arithmetic logic unit. The arithmetic logic unit in each cell performs the instruction directly on the local value at that address in its memory with the data in the data field.